

Abstract

An alloy suitable for coating metal surfaces is provided in which the alloy provides a liquid melt which contains a fraction of dissolved oxide forming additives as deoxidizers. The alloyed combination of elements in the liquid melt resists compound formation thus preserving the chemical activity of the individual elements. In a coating application, the alloy may form a coating that can interact with and remove the oxide or residual oxide coating of the base metal to be coated, i.e., scrub the surface of the metal clean. This results in increased coating bond strength and the ability to bond effectively to normally difficult alloys such as stainless steel, refractory metals (W, Ti, Ta etc.), or aluminum alloys which form protective oxide layers.